STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

The United Illuminating Company Application for a Certificate of Environmental Compatibility and Public Need for the Construction, Maintenance, and Operation of a Proposed 115-kV/13.8-kV Electric Substation and Associated Facilities at 3-7 Wildflower Lane, Trumbull, Connecticut	)	Docket 317
	)	October 19, 2006

PRE-FILED TESTIMONY OF RICHARD J. REED

Q. Mr. Reed, please discuss your current position at The United Illuminating Company ("UI" or the "Company").

A. I am the Vice President of Electric System at UI. My business address is 801 Bridgeport Avenue, Shelton, CT 06484. I joined UI in 1970 and have held various leadership positions in the Company, including Director of Customer Service, and my current position, Vice President – Electric System.

Q. Mr. Reed, please identify the purpose of this testimony.

A. The purpose of my testimony is to:

- Summarize The United Illuminating Company's request for certification to construct a 115-kV/13.8-kV electric substation and associated facilities at 3-7 Wildflower Lane, Trumbull, Connecticut.
- Provide updated information on the need for the substation following the summer peak of 2006, which occurred after the filing of the Company's

application for a certificate of environmental compatibility and public need to construct a 115/13.8-kV substation at 3-7 Wildflower Lane.

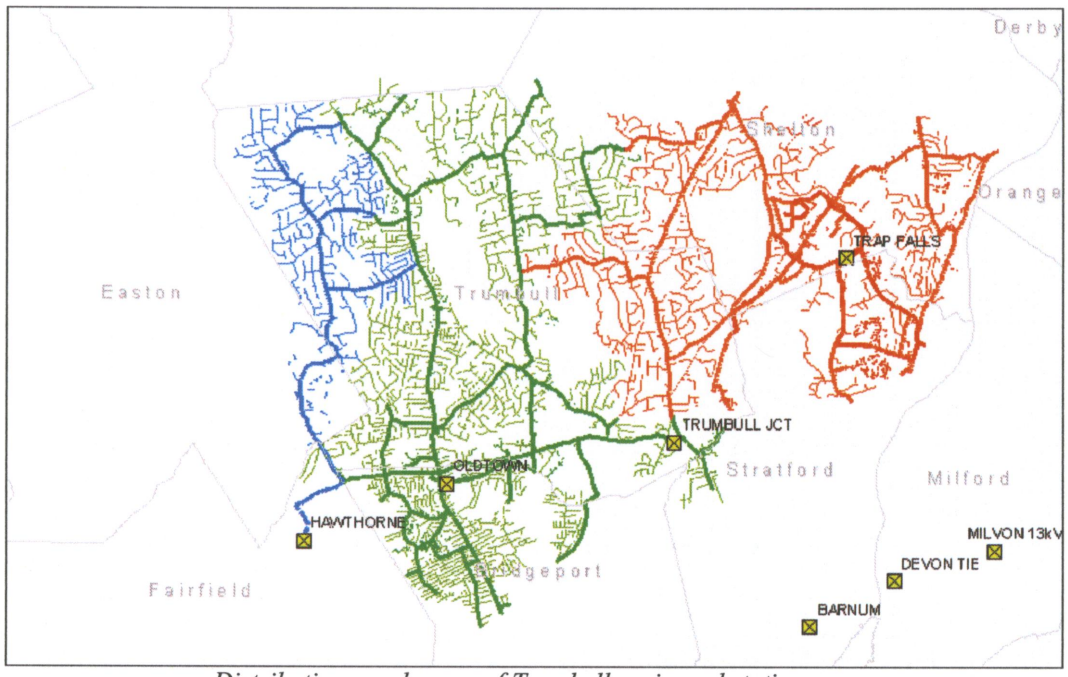
- Address the recommendation of the Town of Trumbull and the Wildflower Coalition Petitioners that the substation be located at Site 6 rather than the site proposed by UI.

Q. What is the Company proposing and where will it be built?

A. UI is proposing to build a 115-kV to 13.8- kV 58 MVA open air substation on the Company's 4.85 acre parcel on Wildflower Lane in Trumbull. The estimated cost of the substation is approximately $17,300,000. The substation's footprint will be approximately 335' by 200'. The tallest structures to be added as part of the project will be two new transmission structures: one located within the substation fence line will be approximately 76' tall, and the other, located in the CL&P right-of-way, will be approximately 85' tall. The Company's proposed design includes a 14' chain link fence surrounding the perimeter of the substation. The exterior of this chain link fence will be lined with mature plantings.

Q. Why is UI proposing a new substation in Trumbull?

A. UI presently has no substation in the Town of Trumbull. The residents and businesses of Trumbull are served by either the Company's Trap Falls Substation in Shelton or Old Town Substation in Bridgeport.



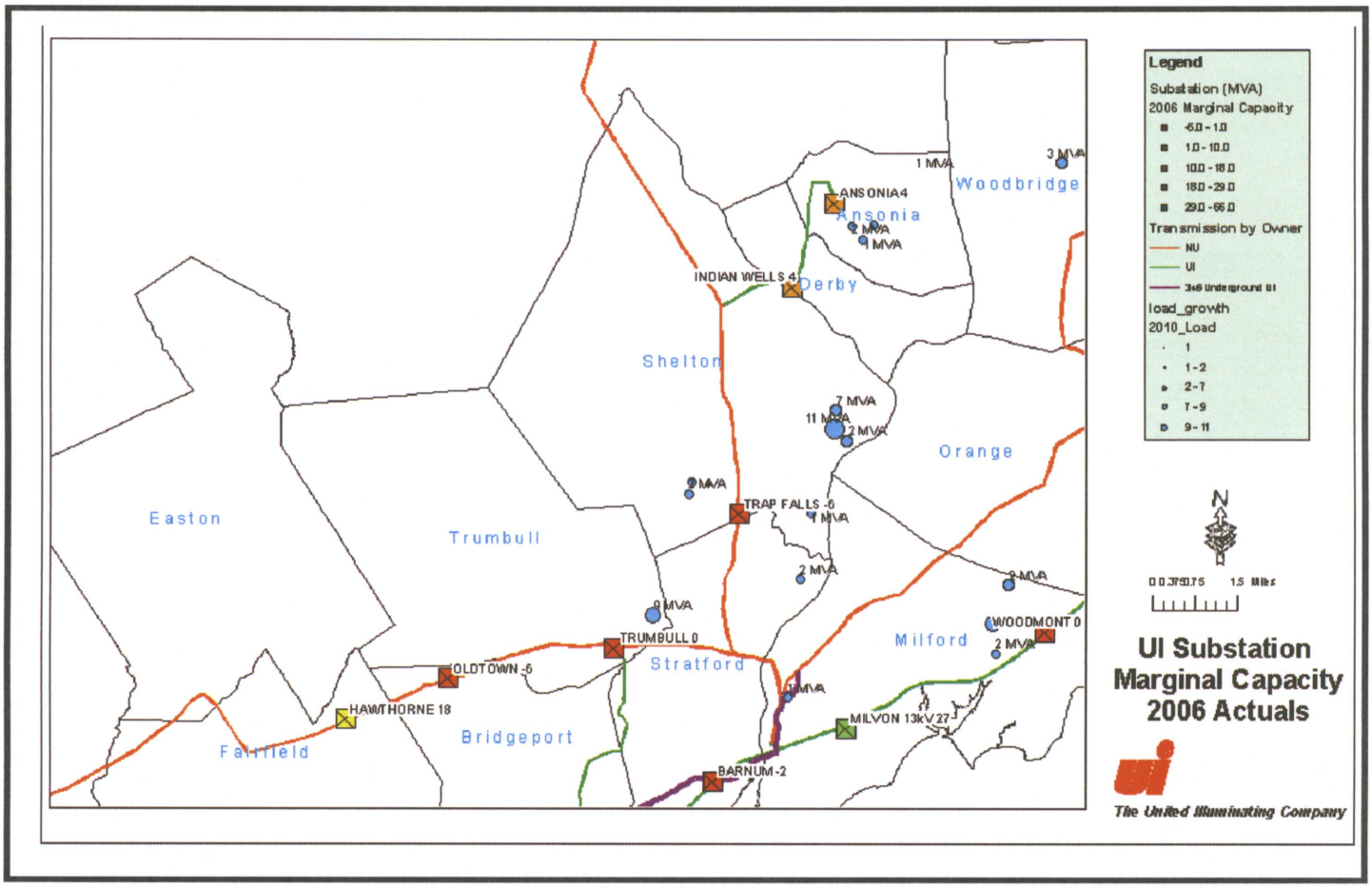
Distribution supply area of Trumbull region substations

Hawthorne (Blue), Old Town (Green) Trap Falls (Red)

Between 1995 and 2005, the residential electric usage in Trumbull increased by 38% while commercial electric usage increased by 45%. In the summer of 2006, the UI system experienced multiple new peaks and both the UI system and the New England system set peak demand records that far exceeded planning projections. Both the Trap Falls and Old Town substations exceeded their ratings by 6 MVA each. Trap Falls operated above its rating on 4 days for a total of 24 hours. Old Town operated above its rating on 4 days for a total of 20 hours.

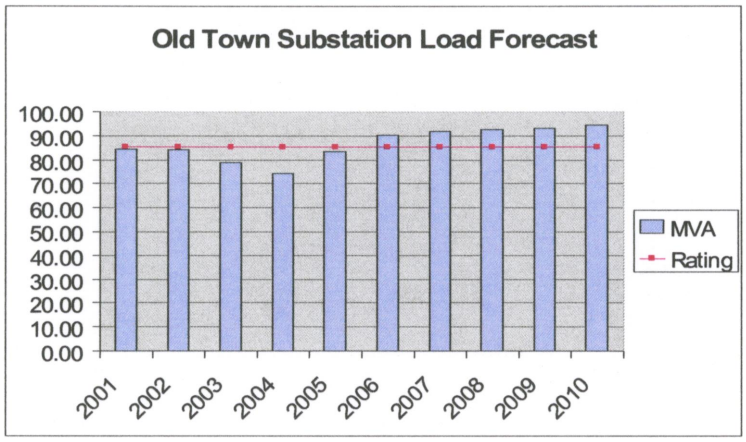
Without the addition of a new substation, the greater Trumbull area is at risk of rolling blackouts if a failure results in a transformer being out of service during periods of peak demand. UI projects that load growth in the greater Trumbull area during the next five years will be significantly higher than in the past five years. The figure below

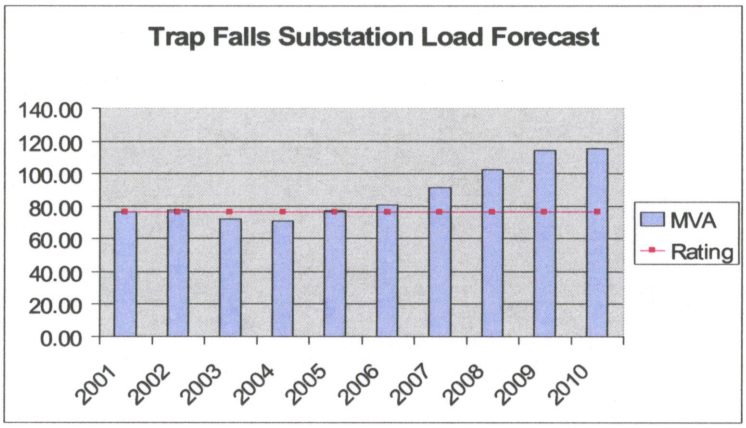
illustrates proposed new loads greater than 1 MVA that are expected to be in service by 2010.



2006 Substation marginal capacity in the greater Trumbull region and 2010 forecast load growth > 1MVA

As the electric demand in the area grows, the amount of time that customers are at risk also grows. The graphs below illustrate the actual loads and peak load projections for Trap Falls and Old Town Substations.





A deficit in regional substation capacity exists today and will increase rapidly in the future. The Company has identified distribution load transfer projects to cover the capacity deficit during the summer peak of 2007. Completion of the substation by June 2008 is required to cover the projected peak in the summer of 2008.

Q. What is UI's current use of the Wildflower Lane site?

A. The Company has used the site as a transmission switching yard since 1961, when UI's north/south 1710/1730 transmission lines were installed and connected to the existing Connecticut Light and Power ("CL&P") east/west 1710/1730 lines. The CL&P east/west portion of the line was installed in 1950.

Q. Why is UI proposing the new substation be built on the Wildflower Lane site?

A. The site on Wildflower Lane presents the best opportunity to maintain the long-term reliability of the electric system while balancing environmental, aesthetic and cost considerations. The proposed site provides the following unique benefits: (1) the site is owned by UI and has been previously disturbed, minimizing the environmental impact; (2) it meets the Company's requirement for long range planning by providing adequate, reliable, economic service to our customers; and (3) it is the most economically practicable of all the alternative sites considered.

Q. The Company understands that the Town of Trumbull and the Wildflower Coalition Petitioners are proposing an alternate location for the substation, on land that the Town owns at the end of Quail Trail, Oak Ridge Road, Leffert Road, and Rolling Wood Drive ("Site 6"). Has the Company considered this location?

A. The Company considered Site 6 in its Site Selection Study included as Appendix D in the Company's Application filed with the Council on June 30, 2006. The Town first presented the idea of using Site 6 during a meeting on May 10, 2006 among UI, Town officials, and residents of the Wildflower Lane area. The Town's proposal places the substation (1) approximately 300 feet away from the nearest property line, (2) straddling CL&P's 1730/1710 transmission right of way, and (3) on land characterized by up to a 10 foot drop in elevation. For comparison purposes between Site 1 and Site 6, UI made an evaluation assuming the substation was not in the right-of-way. The Company prefers Site 1 over Site 6 for the following reasons:

Impact on the Environment – Site 1 is a heavily disturbed site that has been in use by the Company since 1961. Much of the natural vegetation has been removed and consists of a few specimen trees and mainly introduced (weedy) plants. Site 6 consists of mature native trees, recreational trails, wetlands, an intermittent stream, understory and native plant species. It is of a higher wildlife value than the preferred site. The Company's analysis of the existing environmental conditions at Site 1 and Site 6 are summarized as follows:

	Site 1	Site 6
Existing Condition	4.85 acres of disturbed open, shrubby and wooded area with many non-native plants, junction of north/south and east/west transmission lines	20.6 acres of mature woodland of native trees and understory species, east/west transmission lines
Trees	few, small to modest size	mostly modest to large size, greater species diversity
Wildlife	minimal wildlife value	deer, turkey shelter and foraging areas
Recreation	semi-industrial and low use potential	open space, used for hiking (trails present)
Wetlands/waters	not present	wetlands and waters on site

Site 6 is located in a woodland area in close proximity to five existing neighborhoods where there is likely an expectation that the woodland would be preserved as Town-owned open space. The Company believes that locating the substation at Site 6, rather than on a site that is already in use in a utility switching application, has an unnecessary adverse impact on the environment.

Reliability and Operability – Locating the project at Site 6 does not provide the reliability and system operating benefits of allowing the Company to sectionalize the 1730 line into three shorter, individually protected lines. This improves the long term operability and reliability of the transmission grid, as well as meeting UI's needs with respect to the long range plans for adequate, reliable and economic service. To do this at Site 6 would require the relocation of the junction of UI's and CL&P's transmission lines to Site 6 via an underground 115 kV transmission cable, at a minimum incremental cost to the project of approximately $5.4 million.

Economic Practicability – Constructing the project at Site 6 will cost UI's customers more than if the project is constructed at Site 1. UI owns Site 1 but would have to acquire Site 6. During the May 10, 2006 meeting, the idea of a land swap – Site 1 for Site 6 – was suggested. Given the unique nature of Site 1 – the junction of north/south and east/west transmission lines – and the potential that future transmission system needs may require solutions to be constructed at this critical point in the electric system, UI would not be interested in a land swap.

Site 1 is located in close proximity to existing transmission, which minimizes the transmission related costs of the Project. It is located close to the geographic center of forecasted load growth in the greater Trumbull region, which minimizes the long term distribution costs of the project. In the Company's site selection study, the Company identified three alternatives – 6A, 6B and 6C – for constructing the substation on the 20.6 acre parcel at Site 6. These sites are illustrated in Appendix D, Exhibit 6.1.3. The estimated cost differentials between these alternatives sites and the proposed site were $1.6, $2.3 and $1.4 million respectively.

Because of the environmental, reliability, and cost benefits listed above, UI believes Site 1 is superior to use of the Town-owned Site 6.

Q. Please describe the proposed Project's anticipated impacts on the residents in the area of Wildflower Lane relating to electric and magnetic fields, noise, public safety and aesthetics.

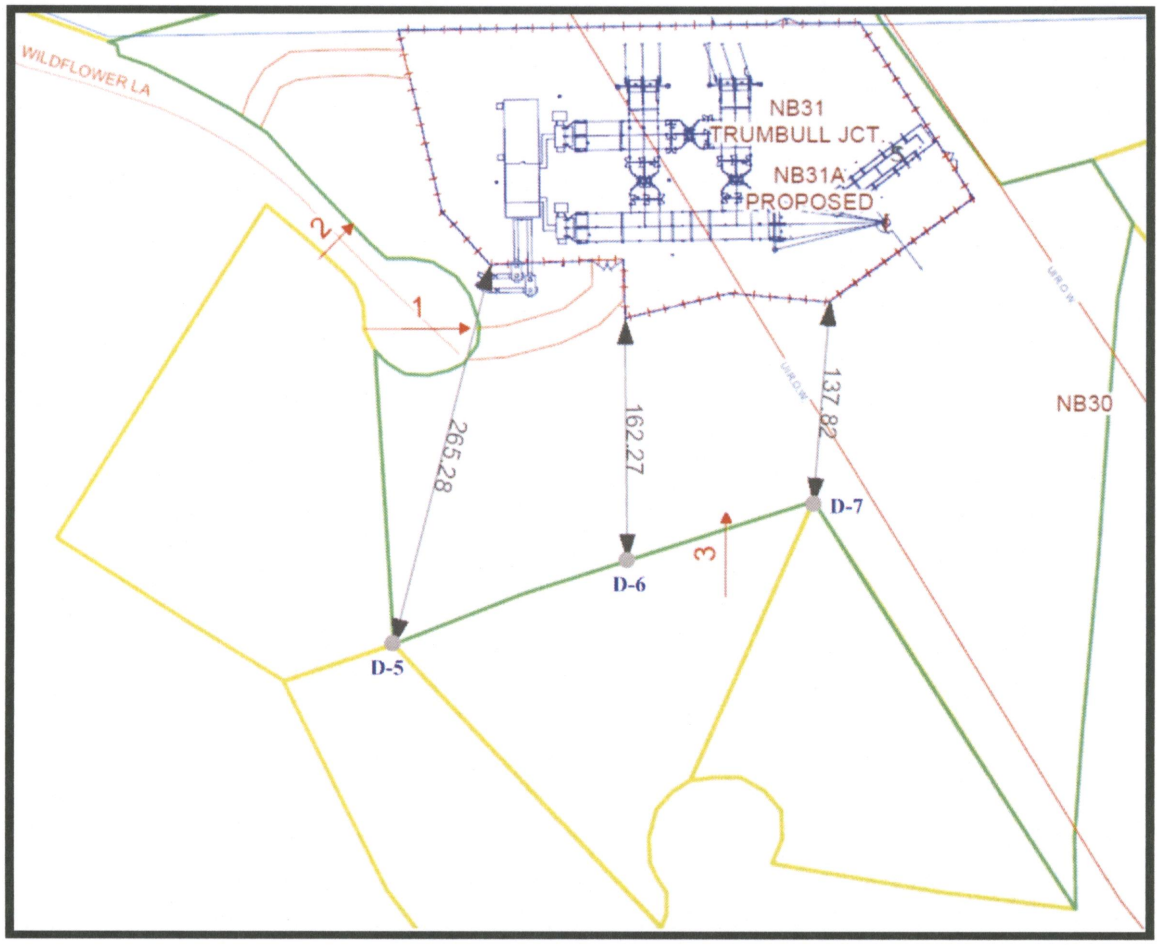
A. I will describe the anticipated impacts of each.

Electric and Magnetic Fields

Construction of the Project will have no appreciable impact on the electric and magnetic fields at the fence line of the Project, nor at any nearby residential properties. The measured magnetic field at the proposed substation fence line ranged from about 1 to 71 mG, depending upon measurement location. The Company's consultant modeled predicted levels of magnetic fields that will occur after the in-service dates of the Bethel/Norwalk (Siting Council Docket 217), Middletown/Norwalk (Siting Council Docket 272) and Trumbull Substation projects. This was done because the Bethel/Norwalk and Middletown/Norwalk projects have an impact on the loadings of the 115-kV transmission lines that serve the proposed substation. The impact of the Middletown/Norwalk project is to reduce the 115-kV line loadings which in turn reduces the EMF levels. For example, the highest calculated magnetic field at the fence line was approximately 42 mG for normal loading and approximately 50 mG for peak loading (compared to the highest existing level of 71 mG).

Additionally, as discussed in the Company's response to Wildflower Coalition Petitioner's Interrogatory 10, the magnetic field calculation results for existing and

proposed configuration for normal and peak loading conditions at three of the abutting properties are :



Summary of Calculated Magnetic Field for Existing and Proposed Conditions

Reference point	Calculated Magnetic Field- mG					
	2003 Load	2003 Load	Normal Load (15 GW)		Peak Load (27 GW)	
	Case #1: Existing Conf.	Case #2: "Pre-Bethel/ Norwalk" (with Trumbull)	Case #3: "Post-Bethel/ Norwalk"	Case #4: "Post-Middletown/ Norwalk"	Case #3: "Post-Bethel/ Norwalk"	Case #4: "Post-Middletown/ Norwalk"
Point "D-5" (39 Stella St.)	0.2	0.3	0.3	0.6	0.2	0.3
Point "D-6" (45 Stella St.)	0.3	0.5	0.5	0.8	0.3	0.5
Point "D-7" (52 Stella St.)	0.4	1.8	1.2	1.3	0.9	1.0

All measured and calculated EMF levels for the existing transmission lines at the existing substation location, as well as the calculated EMF levels once the substation is in operation, are lower than the exposure guidelines provided by the International Commission on Non-Ionizing Radiation Protection and the American Conference of Governmental Industrial Hygienists.

Noise

The calculated noise levels emitted from the substation complies with applicable noise regulations (i.e. 45 dBA at the neighboring residential properties). In addition to regulatory compliance, the Company studied the potential impact of substation noise on nearby residential properties. During nearly all hours, day or night, noise levels are not expected to be perceptible at the property line of any abutting property. In a few nighttime hours, the noise is expected to be barely perceptible at the property line of the property directly north of the project, 1500 Huntington Turnpike, the property directly west of the project, 6 Wildflower Lane, and the property directly south of the project, 45 Stella Street.

The following table illustrates the predicted background sound level increase due to the proposed project. (The reference to mitigation refers to the low noise transformers which the Company has specified for the Project).

Predicted Background Sound Level Increase due to the Facility with Mitigation

	Nearby Residential Properties	Direction from Facility	Representative Measured Background Sound Levels (L90), dBA			Predicted Facility Sound Level, dBA	Future Background Sound Levels with Facility Operating, dBA			Increase in Background Sound Level, dB		
			MD	MN	LN		MD	MN	LN	MD	MN	LN
R1	2911 Nichols Ave	NE	56.8	48.5	38.6	28.1	56.8	48.5	39.0	0	0	0
R2	1500 Huntington	N	46.4	41.3	35.5	41.6	47.6	44.5	42.6	1	3	7
R3	1573 Huntington	N	46.4	41.3	35.5	26.8	46.4	41.5	36.0	0	0	1
R4	6 Wildflower Lane	SW	48.6	44.7	36.9	40.9	49.3	46.2	42.4	1	2	5
R5	45 Stella St	S	48.6	44.7	36.9	39.0	49.1	45.7	41.1	0	1	4

NOTES
MD - Median Hourly Daytime Background (L_{50}) Sound Pressure Level
MN - Median Hourly Nighttime Background (L_{50}) Sound Pressure Level
LN - Lowest Hourly Nighttime Background (L_{90}) Sound Pressure Level
Daytime Hours - 7:00 a.m. through 8:00 p.m.
Nighttime Hours – 8:00 p.m. through 7:00 a.m.

Public Safety

The safety of the public and our employees is the Company's first priority. The substation will be surrounded with a 14' fence to prevent access to the station and its energized equipment by unqualified personnel. Company operating procedures require this perimeter fence to be secure at all times. The substation will also be equipped with a state-of-the-art security system to detect unauthorized access to the station while unoccupied. Dispatchers in the UI Operations Center, which is staffed 24 hours a day, seven days a week, 365 days a year, will be notified if the security system alarms and will notify the proper authorities to respond.

Aesthetic Impact of the Project on Nearby Residences

The Company has incorporated the following aesthetic impact mitigation measures as part of the proposed project.

- Positioning the substation infrastructure on the property in such a way as to be as far away from the houses on Wildflower Lane and Stella Street as possible.
- Placing mature plantings around the substation perimeter fence.
- Locating the driveways off Wildflower Lane (to access the substation) such that the residents at 6 Wildflower Lane will not have a direct view of the substation entrances.
- Utilizing low profile 115kV bus structures.

The Company also evaluated alternative design configurations to minimize effects on the surrounding environment and in particular the visual impacts of the substation on abutting residential properties. They are:

Alternative	**Incremental Cost**
1. Open Air Bus Configuration with Architectural Wall and mature plantings.	$1,200,000
2. GIS Configuration with Architectural Wall and mature plantings.	$3,100,000
3. GIS enclosed in a barn or similar outbuilding with a 14' Chain Link Fence Surrounding the Substation and mature plantings.	$2,300,000

Q. Does this conclude your testimony?

A. Yes.

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